

Bellwork : 9/19/12

① Solve for F

$$\left(\frac{9}{5}\right)C = \left(\frac{9}{5}\right)\frac{5}{9}(F - 32)$$

$$\frac{9}{5}C = F - 32$$

$$+32 \quad +32$$

$$\boxed{\frac{9}{5}C + 32 = F}$$

② Solve for x

$$3(2x - 1) + 2(3x + 4) = 11x$$

$$6x - 3 + 6x + 8 = 11x$$

$$12x + 5 = 11x$$

$$-12x$$

$$-12x$$

$$\boxed{x = -.5} \quad \frac{5}{-1} = \frac{-x}{-1}$$

$$\begin{aligned}
 & (x^7 y^8 z^{-6})^3 (x^{-3} y^5 z^{-1})^{-2} \\
 & (x^{21} y^{24} z^{-18}) (x^6 y^{-10} z^2) \\
 & \quad x^{27} y^{14} \\
 & \quad \hline
 & \quad z^{16}
 \end{aligned}$$

#24

$$\left(\frac{s^{-3}}{4t}\right)^{-3} \left(\frac{5t}{s^{-7}}\right)^{-2}$$

$$\left(\frac{s^9}{4^{-3}t^{-3}}\right) \left(\frac{5^{-2}t^{-2}}{s^{14}}\right)$$

$$\frac{4^3 s^9 t^3}{1}$$

$$\cdot \frac{1}{5^2 s^{14} t^2}$$

$$\frac{64t}{25s^5}$$

#25

$$\left[\left(\frac{x^5 y^2}{x^{-3} y} \right)^{-2} \left(\frac{y^{-3}}{2x^5} \right) \right]^{-1}$$

$$\left[\left(\frac{x^{-10} y^{-4}}{x^6 y^{-2}} \right) \left(\frac{y^{-3}}{2x^5} \right) \right]^{-1}$$

$$\left[\left(\frac{y^2}{x^{10} x^6 y^4} \right) \left(\frac{1}{2x^5 y^3} \right) \right]^{-1}$$

$$\frac{y^{-2}}{x^{-10} x^6 y^{-4}} \cdot \frac{1^{-1}}{2^{-1} x^{-5} y^{-3}}$$

$$x^{16} y^2 \cdot 2x^5 y^3$$

$$2x^{21} y^5$$

$$\#5 \left| \frac{\text{Train 1}}{8(x)} + \frac{\text{Train 2}}{2x} = 720 \text{ mi} \right.$$

$$8(3x) = 720$$

$$24x = 720$$

$$\text{Train 1} = 30 \text{ mph} \quad x = 30$$

$$\text{Train 2} = 60 \text{ mph}$$

$$\#6) \quad \frac{\#1}{x} + \frac{\#2}{x+2} + \frac{\#3}{x+4} = 186$$

$$3x + 6 = 186$$

$$\#1 = 60$$

$$3x = 180$$

$$\#2 = 62$$

$$x = 60$$

$$\#3 = 64$$

$$\hline 186$$

Graph on a number line

$[]$ - the number is included

$()$ - the is not included

Interval Notation

$$x > 4 \quad \leftarrow \text{graph: number line with an open circle at 4 and a ray pointing right} \quad (4, \infty)$$

$$x \geq 4 \quad \leftarrow \text{graph: number line with a closed circle at 4 and a ray pointing right} \quad [4, \infty)$$

$$x < 4 \quad \leftarrow \text{graph: number line with an open circle at 4 and a ray pointing left} \quad (-\infty, 4)$$

$$x \leq 4 \quad \leftarrow \text{graph: number line with a closed circle at 4 and a ray pointing left} \quad (-\infty, 4]$$

Translate to the inequality

5 fewer than a number
is at least 12.

$$x - 5 \geq 12$$



IN: $[17, \infty)$

HW
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Translate to the inequality
The quotient of a number
and 3 is no more than
15.

Solve and graph inequality

$$-3(2x-5) + 1 \geq 4$$



interval
notation

Solve and graph inequality

$$-2(x+9) + 5 \geq 3 \quad \longleftrightarrow$$

interval
notation

A movie rental program offers two subscription plans. You can pay \$36 a month & rent as many movies as you like or you can pay \$15 a month plus \$1.50 per movie. How many movies must you rent in a month for the first plan to cost less than the second plan?

Always, Sometimes, Never

$$-2(3x+1) > -6x+7$$

Always, Sometimes, Never

$$5(2x-3)-7x \leq 3x+8$$

Always, Sometimes, Never

$$4(2x-3) < 8(x+1)$$

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